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<120> MALATHION CARBOXYLESTERASE

<130> Attorney Docket No. 50179-051

<140> 09/068,960
<141> 1998-06-20

<150> PCT/AU96/00746
<151> 1996-11-22

<150> AU 6751
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<170> PatentIn Ver. 2.0

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Gln Pro Pro Val Gly Glu Leu Arg Phe Lys Ala Pro Gln Arg Pro Thr
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Pro Trp Asp Gly Val Arg Asp Cys Cys Asn His Lys Asp Lys Ser Val
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Arg Asp Met Tyr Gly Pro Asp Tyr Phe Ile Lys Lys Asp Val Val Leu
145                 150                 155                 160

Ile Asn Ile Gln Tyr Arg Leu Gly Ala Leu Gly Phe Leu Ser Leu Asn
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Ser Glu Asp Leu Asn Val Pro Gly Asn Ala Gly Leu Lys Asp Gln Val
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Met Ala Leu Arg Trp Ile Lys Asn Asn Cys Ala Asn Phe Gly Gly Asn
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Pro Asp Asn Ile Thr Val Phe Gly Glu Ser Ala Gly Ala Ala Ser Thr
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His Tyr Met Met Leu Thr Glu Gln Thr Arg Gly Leu Phe His Arg Gly
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Thr Val Tyr Asp Asp Ser Tyr Tyr Ser Phe Glu Gly Ile Pro Tyr Ala
    50                  55                  60

Gln Pro Pro Val Gly Glu Leu Arg Phe Lys Ala Pro Gln Arg Pro Thr
65                  70                  75                  80

Pro Trp Asp Gly Val Arg Asp Cys Cys Asn His Lys Asp Lys Ser Val
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Gln Val Asp Phe Ile Thr Gly Lys Val Cys Gly Ser Glu Asp Cys Leu
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Tyr Leu Ser Val Tyr Thr Asn Asn Leu Asn Pro Glu Thr Lys Arg Pro
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Met Ala Leu Arg Trp Ile Lys Asn Asn Cys Ala Asn Phe Gly Gly Asn
        195                 200                 205

Pro Asp Asn Ile Thr Val Phe Gly Glu Ser Ala Gly Ala Ala Ser Thr
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Asp Asn Asp Lys Asp Val Leu Glu Phe Leu Met Lys Ala Lys Pro Gln
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Asn Lys Val Met Phe Pro Phe Gly Pro Thr Val Glu Pro Tyr Gln Thr
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Leu Glu Thr Cys Val Asn Phe Val Pro Ser Glu Leu Ala Asp Ala Glu
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Arg Thr Ala Pro Glu Thr Leu Glu Met Gly Ala Lys Ile Lys Lys Ala
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Ser His Ile Tyr Phe Trp Phe Pro Met His Arg Leu Leu Gln Leu Arg
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Asp Ser Glu Asp Leu Ile Asn Pro Tyr Arg Ile Met Arg Ser Gly Arg
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Gly Val Lys Gly Val Ser His Ala Asp Glu Leu Thr Tyr Phe Phe Trp
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Gln Val Asp Phe Ile Thr Gly Lys Val Cys Gly Ser Glu Asp Cys Leu
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130 135 140

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165 170 175

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180 185 190

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195 200 205

Pro Asp Asn Ile Thr Val Phe Gly Glu Ser Ala Gly Ala Ala Ser Thr
210 215 220

His Tyr Met Met Leu Thr Glu Gln Thr Arg Gly Leu Phe His Arg Gly
225 230 235 240

Ile Leu Met Ser Gly Asn Ala Ile Cys Pro Trp Ala Asn Thr Gln Cys
245 250 255

Gln His Arg Ala Phe Thr Leu Ala Lys Leu Ala Gly Tyr Lys Gly Glu
260 265 270

Asp Asn Asp Lys Asp Val Leu Glu Phe Leu Met Lys Ala Lys Pro Gln
275 280 285

Asp Leu Ile Lys Leu Glu Glu Lys Val Leu Thr Leu Glu Glu Arg Thr
290 295 300

Asn Lys Val Met Phe Pro Phe Gly Pro Thr Val Glu Pro Tyr Gln Thr
305 310 315 320

Ala Asp Cys Val Leu Pro Lys His Pro Arg Glu Met Val Lys Thr Ala
325 330 335

Trp Gly Asn Ser Ile Pro Thr Met Met Gly Asn Thr Ser Tyr Glu Gly

340 345 350

Leu Phe Phe Thr Ser Ile Leu Lys Gln Met Pro Met Leu Val Lys Glu
355 360 365

Leu Glu Thr Cys Val Asn Phe Val Pro Ser Glu Leu Ala Asp Ala Glu
370 375 380

Arg Thr Ala Pro Glu Thr Leu Glu Met Gly Ala Lys Ile Lys Lys Ala
385 390 395 400

His Val Thr Gly Glu Thr Pro Thr Ala Asp Asn Phe Met Asp Leu Cys
405 410 415

Ser His Ile Tyr Phe Trp Phe Pro Met His Arg Leu Leu Gln Leu Arg
420 425 430

Phe Asn His Thr Ser Gly Thr Pro Val Tyr Leu Tyr Arg Phe Asp Phe
435 440 445

Asp Ser Glu Asp Leu Ile Asn Pro Tyr Arg Ile Met Arg Ser Gly Arg
450 455 460

Gly Val Lys Gly Val Ser His Ala Asp Glu Leu Thr Tyr Phe Phe Trp
465 470 475 480

Asn Gln Leu Ala Lys Arg Met Pro Lys Glu Ser Arg Glu Tyr Lys Thr
485 490 495

Ile Glu Arg Met Thr Gly Ile Trp Ile Gln Phe Ala Thr Thr Gly Asn
500 505 510

Pro Tyr Ser Asn Glu Ile Glu Gly Met Glu Asn Val Ser Trp Asp Pro
515 520 525

Ile Lys Lys Ser Asp Glu Val Tyr Lys Cys Leu Asn Ile Ser Asp Glu
530 535 540

Leu Lys Met Ile Asp Val Pro Glu Met Asp Lys Ile Lys Gln Trp Glu
545 550 555 560

Ser Met Phe Glu Lys His Arg Asp Leu Phe
565 570

<210> 9
<211> 1713
<212> DNA
<213> Lucilia cuprina

<400> 9
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aaagtgaaag gcgttaaacg tttaactgtg tacgatgatt cctactacag ttttgagggt 180
ataccgtacg cccaaccgcc agtgggtgag ctgagattta aagcacccca gcgaccaaca 240
ccctgggatg gtgtgcgtga ttgttgcaat cataaagata agtcagtgca agttgatttt 300
ataacgggca aagtgtgtgg ctcagaggat tgtctatacc taagtgtcta tacgaataat 360
ctaaatcccg aaactaaacg tcccgtttta gtatacatac atggtggtgg ttttattatc 420

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ggtgaaaatc atcgtgatat gtatggtcct gattatttca ttaaaaagga tgtggtgttg 480
attaacatac aatatcgttt gggagctcta ggttttctaa gtttaaattc agaagacctt 540
aatgtgcccg gtaatgccgg ccttaaagat caagtcatgg ccttgcgttg gattaaaaat 600
aattgcgcca actttggtgg caatcccgat aatattacag tctttggtga aagtgccggt 660
gctgcctcta cccactacat gatgttaacc gaacaaactc gcggtctttt ccatcgtggt 720
atactaatgt cgggtaatgc tatttgtcca ttggctaata cccaatgtca acatcgtgcc 780
ttcaccttag ccaaattggc cggctataag ggtgaggata atgataagga tgttttggaa 840
tttcttatga aagccaagcc acaggattta ataaaacttg aggaaaaagt tttaactcta 900
gaagagcgta caaataaggt catgtttcct tttggtccca ctgttgagcc atatcagacc 960
gctgattgtg tcttacccaa acatcctcgg gaaatggtta aaactgcttg gggtaattcg 1020
atacccacta tgatgggtaa cacttcatat gagggtctat ttttcacttc aattcttaag 1080
caaatgccta tgcttgttaa ggaattggaa acttgtgtca attttgtgcc aagtgaattg 1140
gctgatgctg aacgcaccgc cccagagacc ttggaaatgg gtgctaaaat taaaaaggct 1200
catgttacag gagaaacacc aacagctgat aattttatgg atctttgctc tcacatctat 1260
ttctggttcc ccatgcatcg tttgttgcaa ttacgtttca atcacacctc cggtacaccc 1320
gtctacttgt atcgcttcga cttcgattcg gaagatctta tcaatcccta tcgtattatg 1380
cgtagtggac gtggtgttaa gggtgttagt catgctgatg aattaaccta tttcttctgg 1440
aatcaattgg ccaaacgtat gcctaaagaa tcgcgtgaat acaaaacaat tgaacgtatg 1500
actggtatat ggatacaatt tgccaccact ggtaatcctt atagcaatga aattgaaggt 1560
atggaaaatg tttcctggga tccaattaag aaatccgatg aagtatacaa gtgtttgaat 1620
attagtgatg aattgaaaat gattgatgtg cctgaaatgg ataagattaa acaatgggag 1680
tcgatgtttg aaaaacatag agatttattt tag                              1713
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<210> 10
<211> 570
<212> PRT
<213> Lucilia cuprina

<400> 10

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Met Asn Phe Asn Val Ser Leu Met Glu Lys Leu Lys Trp Lys Ile Lys
  1               5                  10                  15

Cys Ile Glu Asn Lys Phe Leu Asn Tyr Arg Leu Thr Thr Asn Glu Thr
             20                  25                  30

Val Val Ala Glu Thr Glu Tyr Gly Lys Val Lys Gly Val Lys Arg Leu
         35                  40                  45

Thr Val Tyr Asp Asp Ser Tyr Tyr Ser Phe Glu Gly Ile Pro Tyr Ala
     50                  55                  60

Gln Pro Pro Val Gly Glu Leu Arg Phe Lys Ala Pro Gln Arg Pro Thr
 65                  70                  75                  80

Pro Trp Asp Gly Val Arg Asp Cys Cys Asn His Lys Asp Lys Ser Val
                 85                  90                  95

Gln Val Asp Phe Ile Thr Gly Lys Val Cys Gly Ser Glu Asp Cys Leu
            100                 105                 110

Tyr Leu Ser Val Tyr Thr Asn Asn Leu Asn Pro Glu Thr Lys Arg Pro
        115                 120                 125

Val Leu Val Tyr Ile His Gly Gly Gly Phe Ile Ile Gly Glu Asn His
    130                 135                 140

Arg Asp Met Tyr Gly Pro Asp Tyr Phe Ile Lys Lys Asp Val Val Leu
145                 150                 155                 160
```

```
Ile Asn Ile Gln Tyr Arg Leu Gly Ala Leu Gly Phe Leu Ser Leu Asn
                165                 170                 175

Ser Glu Asp Leu Asn Val Pro Gly Asn Ala Gly Leu Lys Asp Gln Val
            180                 185                 190

Met Ala Leu Arg Trp Ile Lys Asn Asn Cys Ala Asn Phe Gly Gly Asn
        195                 200                 205

Pro Asp Asn Ile Thr Val Phe Gly Glu Ser Ala Gly Ala Ala Ser Thr
    210                 215                 220

His Tyr Met Met Leu Thr Glu Gln Thr Arg Gly Leu Phe His Arg Gly
225                 230                 235                 240

Ile Leu Met Ser Gly Asn Ala Ile Cys Pro Leu Ala Asn Thr Gln Cys
                245                 250                 255

Gln His Arg Ala Phe Thr Leu Ala Lys Leu Ala Gly Tyr Lys Gly Glu
            260                 265                 270

Asp Asn Asp Lys Asp Val Leu Glu Phe Leu Met Lys Ala Lys Pro Gln
        275                 280                 285

Asp Leu Ile Lys Leu Glu Glu Lys Val Leu Thr Leu Glu Glu Arg Thr
    290                 295                 300

Asn Lys Val Met Phe Pro Phe Gly Pro Thr Val Glu Pro Tyr Gln Thr
305                 310                 315                 320

Ala Asp Cys Val Leu Pro Lys His Pro Arg Glu Met Val Lys Thr Ala
                325                 330                 335

Trp Gly Asn Ser Ile Pro Thr Met Met Gly Asn Thr Ser Tyr Glu Gly
            340                 345                 350

Leu Phe Phe Thr Ser Ile Leu Lys Gln Met Pro Met Leu Val Lys Glu
        355                 360                 365

Leu Glu Thr Cys Val Asn Phe Val Pro Ser Glu Leu Ala Asp Ala Glu
    370                 375                 380

Arg Thr Ala Pro Glu Thr Leu Glu Met Gly Ala Lys Ile Lys Lys Ala
385                 390                 395                 400

His Val Thr Gly Glu Thr Pro Thr Ala Asp Asn Phe Met Asp Leu Cys
                405                 410                 415

Ser His Ile Tyr Phe Trp Phe Pro Met His Arg Leu Leu Gln Leu Arg
            420                 425                 430

Phe Asn His Thr Ser Gly Thr Pro Val Tyr Leu Tyr Arg Phe Asp Phe
        435                 440                 445

Asp Ser Glu Asp Leu Ile Asn Pro Tyr Arg Ile Met Arg Ser Gly Arg
    450                 455                 460
```

```
Gly Val Lys Gly Val Ser His Ala Asp Glu Leu Thr Tyr Phe Phe Trp
465                 470                 475                 480

Asn Gln Leu Ala Lys Arg Met Pro Lys Glu Ser Arg Glu Tyr Lys Thr
                485                 490                 495

Ile Glu Arg Met Thr Gly Ile Trp Ile Gln Phe Ala Thr Thr Gly Asn
            500                 505                 510

Pro Tyr Ser Asn Glu Ile Glu Gly Met Glu Asn Val Ser Trp Asp Pro
        515                 520                 525

Ile Lys Lys Ser Asp Glu Val Tyr Lys Cys Leu Asn Ile Ser Asp Glu
    530                 535                 540

Leu Lys Met Ile Asp Val Pro Glu Met Asp Lys Ile Lys Gln Trp Glu
545                 550                 555                 560

Ser Met Phe Glu Lys His Arg Asp Leu Phe
                565                 570
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<210> 11
<211> 26
<212> DNA
<213> Lucilia cuprina

<400> 11
atgaatttca acgttagttt gatgga 26

<210> 12
<211> 28
<212> DNA
<213> Lucilia cuprina

<400> 12
ctaaaataaa tctctatgtt tttcaaac 28

<210> 13
<211> 570
<212> PRT
<213> Musca domestica

<400> 13

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Met Thr Phe Leu Lys Gln Phe Ile Phe Arg Leu Lys Leu Cys Val Lys
  1               5                  10                  15

Cys Met Val Asn Lys Tyr Thr Asn Tyr Arg Leu Ser Thr Asn Glu Thr
             20                  25                  30

Gln Ile Ile Asp Thr Glu Tyr Gly Gln Ile Lys Gly Val Lys Arg Met
         35                  40                  45

Thr Val Tyr Asp Asp Ser Tyr Tyr Ser Phe Glu Ser Ile Pro Tyr Ala
     50                  55                  60

Lys Pro Pro Val Gly Glu Leu Arg Phe Lys Ala Pro Gln Arg Pro Val
 65                  70                  75                  80
```

```
Pro Trp Glu Gly Val Arg Asp Cys Cys Gly Pro Ala Asn Arg Ser Val
                85                  90                  95

Gln Thr Asp Phe Ile Ser Gly Lys Pro Thr Gly Ser Glu Asp Cys Leu
            100                 105                 110

Tyr Leu Asn Val Tyr Thr Asn Asp Leu Asn Pro Asp Lys Arg Arg Pro
        115                 120                 125

Val Met Val Phe Ile His Gly Gly Asp Phe Ile Phe Gly Glu Ala Asn
    130                 135                 140

Arg Asn Trp Phe Gly Pro Asp Tyr Phe Met Lys Lys Pro Val Val Leu
145                 150                 155                 160

Val Thr Val Gln Tyr Arg Leu Gly Val Leu Gly Phe Leu Ser Leu Lys
                165                 170                 175

Ser Glu Asn Leu Asn Val Pro Gly Asn Ala Gly Leu Lys Asp Gln Val
            180                 185                 190

Met Ala Leu Arg Trp Val Lys Ser Asn Ile Ala Ile Phe Gly Gly Asp
        195                 200                 205

Val Asp Asn Ile Thr Val Phe Gly Glu Ser Ala Gly Gly Ala Ser Thr
    210                 215                 220

His Tyr Met Met Ile Thr Glu Gln Thr Arg Gly Leu Phe His Arg Gly
225                 230                 235                 240

Ile Met Met Ser Gly Asn Ser Met Cys Ser Trp Ala Ser Thr Glu Cys
                245                 250                 255

Gln Ser Arg Ala Leu Thr Met Ala Lys Arg Val Gly Tyr Lys Gly Glu
            260                 265                 270

Asp Asn Glu Lys Asp Ile Leu Glu Phe Leu Met Lys Ala Asn Pro Tyr
        275                 280                 285

Asp Leu Ile Lys Glu Glu Pro Gln Val Leu Thr Pro Glu Arg Met Gln
    290                 295                 300

Asn Lys Val Met Phe Pro Phe Gly Pro Thr Val Glu Pro Tyr Gln Thr
305                 310                 315                 320

Ala Asp Cys Val Val Pro Lys Pro Ile Arg Glu Met Val Lys Ser Ala
                325                 330                 335

Trp Gly Asn Ser Ile Pro Thr Leu Ile Gly Asn Thr Ser Tyr Glu Gly
            340                 345                 350

Leu Leu Ser Lys Ser Val Ala Lys Gln Tyr Pro Glu Val Val Lys Glu
        355                 360                 365

Leu Glu Ser Cys Val Asn Tyr Val Pro Trp Glu Leu Ala Asp Ser Glu
    370                 375                 380
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```
Arg Ser Ala Pro Glu Thr Leu Glu Arg Ala Ala Ile Val Lys Lys Ala
385                 390                 395                 400

His Val Asp Gly Glu Thr Pro Thr Leu Asp Asn Phe Met Glu Leu Cys
                405                 410                 415

Ser Tyr Phe Tyr Phe Leu Phe Pro Met His Arg Phe Leu Gln Leu Arg
            420                 425                 430

Phe Asn His Thr Ala Gly Thr Pro Ile Tyr Leu Tyr Arg Phe Asp Phe
        435                 440                 445

Asp Ser Glu Glu Ile Ile Asn Pro Tyr Arg Ile Met Arg Phe Gly Arg
    450                 455                 460

Gly Val Lys Gly Val Ser His Ala Asp Glu Leu Thr Tyr Leu Phe Trp
465                 470                 475                 480

Asn Ile Leu Ser Lys Arg Leu Pro Lys Glu Ser Arg Glu Tyr Lys Thr
                485                 490                 495

Ile Glu Arg Met Val Gly Ile Trp Thr Glu Phe Ala Thr Thr Gly Lys
            500                 505                 510

Pro Tyr Ser Asn Asp Ile Ala Gly Met Glu Asn Leu Thr Trp Asp Pro
        515                 520                 525

Ile Lys Lys Ser Asp Asp Val Tyr Lys Cys Leu Asn Ile Gly Asp Glu
    530                 535                 540

Leu Lys Val Met Asp Leu Pro Glu Met Asp Lys Ile Lys Gln Gly Ala
545                 550                 555                 560

Ser Ile Phe Asp Lys Lys Lys Glu Leu Phe
                565                 570
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<210> 14
<211> 1710
<212> DNA
<213> Musca domestica

<400> 14

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aaatacacaa actaccgtct gagtacaaat gaaacccaaa taatcgatac tgaatatgga 120
caaattaagg gtgttaagcg aatgaccgtc tacgatgatt cttactacag tttcgagagt 180
ataccctatg ctaagcctcc agtgggtgag ttgagattca aggcacccca gcggcctgta 240
ccatgggagg gtgtacgtga ttgctgtggg ccagccaaca gatcggtaca gacagatttc 300
ataagtggca aacccacagg ttcggaggat tgtctatacc tgaatgtgta taccaatgac 360
ttgaacccag acaaaaggcg tcctgttatg gttttcatcc atggcggaga ttttattttc 420
ggcgaagcaa atcgtaactg gtttggtccc gactacttta tgaagaaacc cgtggtcttg 480
gtaaccgtgc aatatcgttt gggtgtgttg ggtttcctta gcctgaaatc ggaaaatctc 540
aatgtccccg gcaacgctgg cctcaaggat caagtaatgg ccttgagatg ggtcaagagt 600
aatattgcca ttttcggtgg cgatgtagac aatattaccg tcttcggcga aagtgctggt 660
ggggcctcaa cccattacat gatgataacc gaacagaccc gtggtttatt ccatcgtggt 720
atcatgatgt ccggtaattc catgtgctca tgggcctcta cagaatgcca aagtcgtgcg 780
ctcaccatgg ccaaacgtgt tggctataag ggagaggaca atgaaaaaga tatcctggaa 840
ttcctaatga aagccaatcc ctatgatttg atcaaagagg agccacaagt tttgacaccc 900
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gaaagaatgc aaaataaggt catgtttcct tttggaccca ctgtagaacc ataccagaca 960
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atacccacat tgataggcaa tacctcctac gaaggtttgc tttccaaatc aattgccaaa 1080
caatatccgg aggttgtaaa agagttggaa tcctgtgtga attatgtgcc ttgggagttg 1140
gctgacagtg aacgcagtgc cccggaaacc ctggagaggg ctgccattgt gaaaaaggcc 1200
catgtggatg gggaaacacc tactctggat aattttatgg agctttgctc ctatttctat 1260
ttcctcttcc ccatgcatcg cttcctacaa ttgcgcttca accacacagc tggcactccc 1320
atttatttgt atcgtttcga tttcgattcc gaagaaatta ttaaccccta tcgtattatg 1380
cgttttggcc gtggcgttaa aggtgtaagc catgccgatg agctaaccta tctcttctgg 1440
aacatttttgt cgaaacgcct gccaaaggaa agccgcgaat acaaaaccat tgaacgcatg 1500
gttggcattt ggacggaatt cgccaccacc ggcaaaccat acagcaatga tatagccggc 1560
atggaaaacc tcacctggga tcccataaaa aaatccgatg atgtctataa atgtttaaat 1620
atcggcgatg aattgaaagt tatggatttg ccagaaatgg ataaaattaa acaatgggca 1680
agtatattcg ataaaaagaa ggaattgttt                                   1710
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<210> 15
<211> 207
<212> PRT
<213> Musca domestica

<400> 15

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  1               5                  10                  15

Tyr Leu Asn Val Tyr Thr Asn Asp Leu Asn Pro Asp Lys Lys Arg Pro
             20                  25                  30

Val Met Val Phe Ile His Gly Gly Gly Phe Ile Phe Gly Glu Ala Asn
         35                  40                  45

Arg Asn Trp Tyr Gly Pro Asp Tyr Phe Met Lys Lys Pro Val Val Leu
     50                  55                  60

Val Thr Val Gln Tyr Arg Leu Gly Val Leu Gly Phe Leu Ser Leu Lys
 65                  70                  75                  80

Ser Glu Asn Leu Asn Val Pro Gly Asn Ala Gly Leu Lys Asp Gln Val
                 85                  90                  95

Met Ala Leu Arg Trp Phe Lys Ser Asn Ile Ala Ile Phe Gly Gly Asp
            100                 105                 110

Val Asp Asn Ile Thr Val Phe Gly Glu Ser Ala Gly Gly Ala Ser Thr
        115                 120                 125

His Tyr Met Met Ile Thr Glu Gln Thr Arg Gly Leu Phe His Arg Gly
    130                 135                 140

Ile Met Met Ser Gly Asn Ser Met Cys Ser Ser Ala Ser Thr Glu Cys
145                 150                 155                 160

Gln Ser Arg Ala Leu Thr Met Ala Lys Arg Val Gly Tyr Lys Gly Glu
                165                 170                 175

Glu Asn Glu Lys Asp Ile Leu Glu Phe Leu Met Lys Ala Asn Pro Tyr
            180                 185                 190

Asp Leu Ile Lys Glu Glu Pro Gln Val Leu Thr Pro Glu Arg Met
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195 200 205

<210> 16
<211> 21
<212> DNA
<213> Lucilia cuprina

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<210> 17
<211> 21
<212> DNA
<213> Lucilia cuprina

<400> 17
aaaaggatgt ggtgttgatt a 21

<210> 18
<211> 21
<212> DNA
<213> Lucilia cuprina

<400> 18
actaatgtcg ggtaatgcta t 21

<210> 19
<211> 21
<212> DNA
<213> Lucilia cuprina

<400> 19
cactatgatg ggtaacactt c 21

<210> 20
<211> 21
<212> DNA
<213> Lucilia cuprina

<400> 20
tgttacagga gaaacaccaa c 21

<210> 21
<211> 21
<212> DNA
<213> Lucilia cuprina

<400> 21
agaatcgcgt gaatacaaaa c 21

<210> 22
<211> 21
<212> DNA
<213> Lucilia cuprina

<400> 22
acggtatacc ctcaaaactg t 21

<210> 23
<211> 21
<212> DNA
<213> Lucilia cuprina

<400> 23
tcccaaacga tattgtatgt t 21

<210> 24
<211> 21
<212> DNA
<213> Lucilia cuprina

<400> 24
acatcatgta gtgggtagaa g 21

<210> 25
<211> 21
<212> DNA
<213> Lucilia cuprina

<400> 25
ccgaggatgt ttgggtaaga c 21

<210> 26
<211> 21
<212> DNA
<213> Lucilia cuprina

<400> 26
tatcagctgt tggtgtttct c 21

<210> 27
<211> 21
<212> DNA
<213> Lucilia cuprina

<400> 27
acgcgattct ttaggcatac g 21

<210> 28
<211> 21
<212> DNA
<213> Lucilia cuprina

<400> 28
tgctgcctct acccactaca t 21

<210> 29
<211> 21
<212> DNA
<213> Lucilia cuprina

<400> 29
cctgtggctt ggctttcata a 21

<210> 30

<211> 35
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Degenerate
Primer

<220>
<221> modified_base
<222> (9)
<223> i

<220>
<221> modified_base
<222> (12)
<223> i

<220>
<221> modified_base
<222> (15)
<223> i

<220>
<221> modified_base
<222> (21)
<223> i

<220>
<221> modified_base
<222> (27)
<223> i

<220>
<221> modified_base
<222> (30)
<223> i

<400> 30
ttcgagggna tnccntaygc nmarccnccn btngg 35

<210> 31
<211> 32
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Degenerate
Primer

<220>
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<222> (12)
<223> i

<220>
<221> modified_base
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<223> i

<220>
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<222> (18)
<223> i

<220>
<221> modified_base
<222> (24)
<223> i

<220>
<221> modified_base
<222> (27)
<223> i

<400> 31
acytgrtcyt tnarnccngc rttnccnggn ac 32

<210> 32
<211> 22
<212> DNA
<213> Musca domestica

<400> 32
tttggtcccg actactttat ga 22

<210> 33
<211> 24
<212> DNA
<213> Musca domestica

<400> 33
tgccacttat gaaatctgtc tgta 24

<210> 34
<211> 24
<212> DNA
<213> Musca domestica

<400> 34
tacatgatga taaccgaaca gacc 24

<210> 35
<211> 23
<212> DNA
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<400> 35
tcgattattt gggtttcatt tgt 23

<210> 36
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<212> DNA
<213> Musca domestica

<400> 36

acagacagat ttcataagtg g 21

<210> 37
<211> 21
<212> DNA
<213> Musca domestica

<400> 37
tttgcattct ttcgggtgtc a 21

<210> 38
<211> 21
<212> DNA
<213> Musca domestica

<400> 38
attcgatacc cacattgata g 21

<210> 39
<211> 21
<212> DNA
<213> Musca domestica

<400> 39
ggcactccca tttatttgta t 21

<210> 40
<211> 23
<212> DNA
<213> Musca domestica

<400> 40
atgacttttc tgaagcaatt cat 23

<210> 41
<211> 23
<212> DNA
<213> Musca domestica

<400> 41
aaacaattcc ttctttttat cga 23

<210> 42
<211> 21
<212> DNA
<213> Musca domestica

<400> 42
ggcatggaaa acctcacctg g 21

<210> 43
<211> 207
<212> PRT
<213> Lucilia cuprina

<400> 43
Gln Val Asp Phe Ile Thr Gly Lys Val Cys Gly Ser Glu Asp Cys Leu
1 5 10 15

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Tyr Leu Ser Val Tyr Thr Asn Asn Leu Asn Pro Glu Thr Lys Arg Pro
          20                  25                  30

Val Leu Val Tyr Ile His Gly Gly Gly Phe Ile Ile Gly Glu Asn His
         35                  40                  45

Arg Asp Met Tyr Gly Pro Asp Tyr Phe Ile Lys Lys Asp Val Val Leu
     50                  55                  60

Ile Asn Ile Gln Tyr Arg Leu Gly Ala Leu Gly Phe Leu Ser Leu Asn
 65                  70                  75                  80

Ser Glu Asp Leu Asn Val Pro Gly Asn Ala Gly Leu Lys Asp Gln Val
                 85                  90                  95

Met Ala Leu Arg Trp Ile Lys Asn Asn Cys Ala Asn Phe Gly Gly Asn
            100                 105                 110

Pro Asp Asn Ile Thr Val Phe Gly Glu Ser Ala Gly Ala Ala Ser Thr
        115                 120                 125

His Tyr Met Met Leu Thr Glu Gln Thr Arg Gly Leu Phe His Arg Gly
    130                 135                 140

Ile Leu Met Ser Gly Asn Ala Ile Cys Pro Leu Ala Asn Thr Gln Cys
145                 150                 155                 160

Gln His Arg Ala Phe Thr Leu Ala Lys Leu Ala Gly Tyr Lys Gly Glu
                165                 170                 175

Asp Asn Asp Lys Asp Val Leu Glu Phe Leu Met Lys Ala Lys Pro Gln
            180                 185                 190

Asp Leu Ile Lys Leu Glu Glu Lys Val Leu Thr Leu Glu Glu Arg
        195                 200                 205
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